REMARKS

Claims 4-5 have been cancelled. Claim 1 has been amended. Claims 1-3 are now pending in this application. Support for the amendments is found in the existing claims and the specification as discussed below. Accordingly, the amendments do not constitute the addition of new matter. Applicant respectfully requests the entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Restriction requirement

Applicants' representative confirms the election of Group I, claims 1-3, without traverse.

Claim amendments

Claim 1 has been amended to correct a typographical error as kindly pointed out by the Examiner. The phrase "using electrolytic Mn ground" has been changed to "grinding electrolytic Mn" to add an active method step as preferred in U.S. practice. Additionally, claim 1 has been amended to specify either wt% or % by volume.

Rejection under 35 U.S.C. § 103(a) (Dremann)

Claims 1 and 2 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dremann (US 4171215).

Dremann discloses a manganese alloying additive which is prepared by blending finely divided particles of β-manganese and aluminium and then compacting this mixture into compacts such as briquettes or pellets. Also, Dremann discloses the previous preparation of the β-manganese powder by heating electrolytic α-manganese chips, rapidly quenching to room temperature and crushing to a particle size less than 590 microns. Therefore, the method for the manufacture of compacts starts from a mixture of 50-90 wt% β-manganese powder (average particle size $\leq$ 420 microns) and 10 wt% aluminium powder (average particle size $\leq$ 590 microns, less than 10 wt% particles $\leq$ 44 microns in size).

The method defined in claim 1 of the present application differs from that of Dremann in that:

1) the minitablets obtained have a higher concentration of Mn (90-98 wt% versus 50-90 wt%);

2) the manganese powder is an α-manganese powder obtained by grinding electrolytic α-manganese flakes (and not a β-manganese powder obtained by heating electrolytic α-manganese chips, rapidly quenching and crushing);
3) the Mn powder has less than 15 wt% of fines (particles less than 100 microns in size).
4) the controlled Al grain size is 100-800 microns with over 80 wt% powder with a grain size of 350-720 microns.

Accordingly, Dremann does not teach all of the elements of the claimed invention.

The Examiner points out that even if Dremann does not disclose the distribution of Al particles size and the percentage of fine Mn particles, the skilled person would have optimized these variables in order to improve the dissolution rates of the pellets in the Al bath.

Applicants respectfully disagree with the Examiner as one of ordinary skill in the art would not have arrived at the method of the claimed invention by following the teaching of Dremann for the following reasons.

First, Dremann teaches away from the method claimed in the present application since Dremann states that an essential feature of the method is the use of β-manganese (and not α-manganese which in fact is converted into β-manganese) as starting material in order to achieve better dissolution rates of the compacts in the Al bath. Therefore, one of ordinary skill in the art would have tried to convert electrolytic α-manganese chips into electrolytic β-manganese chips before crushing them in order to achieve a quicker dissolution of compacts in the Al bath, and not to control other features such as the content of fines in Mn powder or the distribution of Al particles size.

Second, the previously detailed differences allow achieving not only a better dissolution rate of minitablets in the Al bath but also a better compaction of these minitablets and a lower content of Al in them.

As stated in the present application, it is critical to control the percentage of fine Mn particles below 15 wt% in order to reproducibly obtain minitablets having more than 90 wt% Mn. Accordingly, one of ordinary skill in the art following the teachings of Dremann would not have a reasonable expectation of success in reproducibly achieving minitablets having more than 90% Mn. Also the grain size distribution of Al particles must be coarse enough to allow the

powdered material to be compacted but also fine enough not to retard the dissolving rate, since the number of Al grains has been reduced due to the increase of Mn concentration in the minitablets. These features cannot be deduced from Dremann inasmuch as Dremann discloses the preparation of pellets with a lower concentration of Mn (50-90 wt%).

Claim 2 depends from claim 1 and contains all of the limitations thereof. Accordingly, claim 2 is believed to be patentable over Dremann, at least for the reasons presented above.

In view of Applicants' arguments, reconsideration and withdrawal of the above ground of rejection is respectfully requested.

Rejection under 35 U.S.C. § 103(a) (Dremann, JP 59-004999)

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Dremann ('215) as applied to claim 1 above, in view of JP 59-004999 A.

JP 59-004999 discloses a method for supplying powder to a powder molding press without fluctuations in the supply rate of powder. This method comprises controlling the amount of the powder in the supply part and maintaining the pressure to be exerted on the power packed in the cavity of a molding press in a particular range. To carry out this method, a device is disclosed in which a detector for the powder level is installed in a hopper for controlling the amount of the powder in a powder supply part.

However, in the screw tube conveyor of JP 59-004999 the particular powdered mixture of the invention would be separated into their components (Al powder and Mn powder) when elevating and lowering it due to the different density of Al powder and Mn powder. Additionally, the press disclosed in JP 59-004999 is vertical and not horizontal and the material is fed below one of the punches (upper punch), that is, the material is fed over previously compacted material and not to the empty cavity, having thus an effect on the pressure to be exerted. Finally, in JP 59-004999 this detector works by pressure in the feeder hopper while the detector of the application monitors the presence of product (the product column level) by means of electrical sensors in the compacting chamber. Accordingly, the combination of Dremann '215 and JP 59-004999 would not produce the claimed invention.

Additionally, the method of claim 3 includes the features defined in claim 1 which are not obvious as discussed above. Accordingly, it is respectfully submitted that claim 3 is patentable over the cited references.

In view of Applicants' arguments, reconsideration and withdrawal of the above ground of rejection is respectfully requested.

CONCLUSION

In view of Applicants' amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: Aug 30, 2007

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